TN Department of
Health

Surveillance of Traumatic Brain Injury-Related Hospitalizations in Tennessee
Annual Surveillance Summary, 2015

Introduction
In Tennessee, between **8,000-9,000** hospitalizations related to traumatic brain injuries occur annually. Traumatic Brain Injuries (TBIs) are caused by a "bump, blow, or jolt to the head, or a penetrating head injury that disrupts the normal function of the brain (CDC)." Because of the nature of these injuries, TBIs are a major cause of death and disability; thus, legislation passed in 1993 established the Tennessee Traumatic Brain Injury Registry. The Registry collects data from all non-federal hospitals statewide for the purpose of connecting TBI patients with resources available during the course of their recovery. This data serves to analyze the causes of TBIs in Tennessee and support the planning and implementation of initiatives to reduce these injuries throughout the state.

Overview
Information presented in this surveillance summary is based on provisional data collected by the Tennessee TBI Registry for the year of 2015 (January to December). A total of **8,050** patients were reported to the TBI Registry with a TBI-related hospitalization (length of stay $\geq$ 24 hours) or death during this period. Of these:
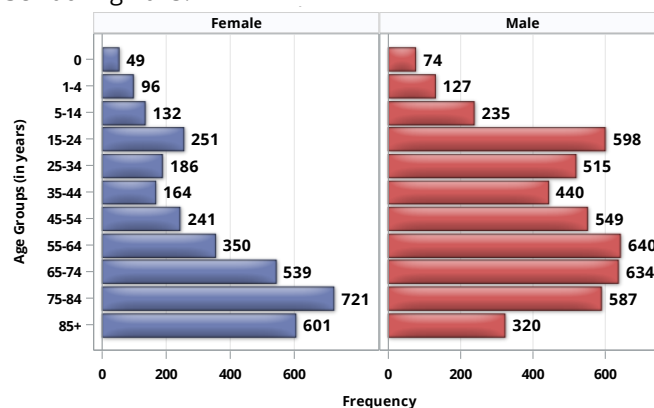
- **90% (n=7,214)** were reported with a discharge status of alive

- **53% (n=4,290)** of cases required only self-care or non-skilled assistance at discharge
- **31% (n=2,562)** of cases resulted in the patient being discharged to a residential, rehab, other long term care facility, or with home care.

Demographics
Roughly **60% (n=4,720)** of TBIs overall were males. In each age group, more males were hospitalized for a TBI-related cause, with the exception of patients over 75 years where more females were hospitalized (**Figure 1**).

Figure 1. Number of TBI Patients by Age Group and Sex during 2015.

Traumatic Brain Injury Registry 2015 FinalData
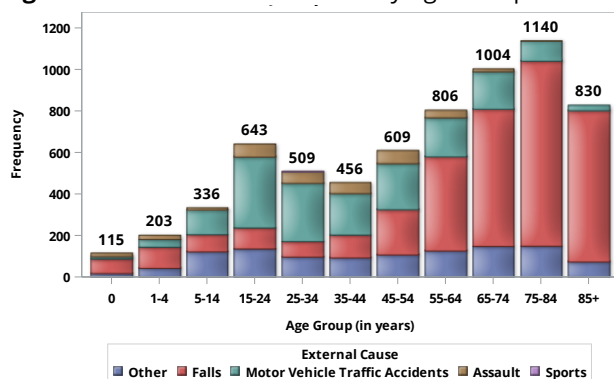*Source: Tennessee Department of Health, Division of Family Health and Wellness*

External Causes
Since 2008, the two leading causes of traumatic brain injuries in Tennessee have been falls and motor vehicle traffic accidents. Falls are the most frequent cause

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of TBI-related hospitalization for most age groups, with the highest risk of brain injury in young children and seniors **(Figure 2)**.

Also staying in trend with previous years, motor vehicle traffic accidents are the most frequent cause of TBI-related hospitalizations in patients from ages **5 to 54**.

Figure 2. External Causes of TBIs by Age Group

Traumatic Brain Injury Registry 2015 Final Data
Source: Tennessee Department of Health, Division of Family Health and Wellness
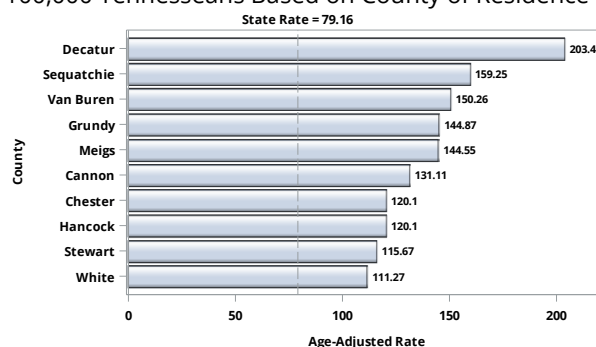
Concussions

During 2015, **985** patients were hospitalized concussion as the primary diagnosis, and **2,120** patients had a concussion in any diagnosis position. Almost **20% (n=184)** of primary concussions were in adolescents and young adults ages **15-24**. Within this age group, less than **5% (n=6)** of concussions were sports-related.

Additional Information

The average length of stay for a TBI-related hospitalization in 2015 was **6 days**.

In 2015, the statewide age-adjusted rate of traumatic brain injury was **79.16 cases per 100,000 population**. The TBI-related hospitalization rates were highest in the residents of Decatur County, where rates were over **twice as high as** the state rate **(Figure 3)**.

Figure 3. Age-Adjusted TBI Hospitalization Rates per 100,000 Tennesseans Based on County of Residence

Traumatic Brain Injury Registry 2015 Final Data
Rates based on 2014 County-Level Population Estimates provided by the Census Bureau
Source: Tennessee Department of Health, Division of Family Health and Wellness

Over **76% (n=6,140)** of reported TBI-related hospitalizations involved a Tennessee resident while **24% (n=1,910)** involved non-residents, primarily from the 8 states bordering Tennessee.

Contact Information

Additional TBI reports and fact sheets may be found at https://www.tn.gov/health/topic/tbi. For any additional information on the Traumatic Brain Injury Program, please call **1.800.882.0611**.

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